

REMARKS

Claims 1-10 were pending in this application. By this Amendment, applicant has amended claim 1. Support for the amendment to claim 1 may be found in the specification as filed on page 5, line 3. Accordingly, no issue of new matter is raised by this amendment. Applicant respectfully requests that the Examiner enter this Amendment. Upon entry of this Amendment, claim 1 as amended herein and claims 2-10 dependent therefrom will be pending and under examination.

Rejection Under 35 U.S.C. §103

In the December 9, 2009 Final Office Action, the Examiner again rejected claims 1-10 under 35 U.S.C. §103(a) as obvious by Ohsawa et al., U.S. Patent No. 4,341,958 (“Ohsawa”) in view of Allen et al., U.S. Patent No. 4,739,176 (“Allen”).

The Examiner stated that Ohsawa substantially teaches the claimed invention except that it does not show that the light emitter elements are at least two in number and are oriented such that the thread is always struck by the light emitted by at least one of them. To cure this deficiency in the disclosure of Ohsawa, the Examiner cited Allen and asserted that Allen shows that it is known to provide at least two emitter elements so that a light emitter always strikes the thread for an optical thread sensor. The Examiner concludes that it would have been obvious to one skilled in the art to combine the device of Ohsawa with the optical emitters of Allen for the purpose of providing uniform illumination of the thread, therefore reducing errors in the optical measurement.

In response, applicant respectfully traverses the Examiner’s ground of rejection. Applicant notes that claim 1 has been amended to recite that light transparent means (6) are transparent to infrared light so that the light generated is not diffused. Applicant maintains that this feature is not disclosed in either cited references.

Applicant's invention provides for at least two light emitter elements which are oriented such that the thread is always struck by the light emitted by at least one of them and *a light transparent means of the claimed device which are transparent to the infrared light so that they do not diffuse the light emitted by the transmitter means*. Ohsawa does not disclose at least two light emitter elements oriented such that the thread is always struck by the light emitted or that the light transparent means are transparent to the infrared light so that the emitted light is not diffused. Allen does not cure these deficiencies. Allen discloses at column 4, lines 32-37, that the material of insert 44 is selected to provide a background in any given direction by providing for the reflectivity of the background to be similar to the yarn. Accordingly, the material of insert 44 reflects the light generated by the lamps. In addition, and with regard to claim 2, applicant maintain that neither Ohsawa nor Allen disclose that the ceramic material contains at least one of the following : alumina, zirconium, sapphire, i.e. the ceramic material is a transparent textile ceramic. Accordingly, neither Ohsawa nor Allen, alone or in combination, disclose the claimed invention.

In addition, as stated in previous communication to the U.S. Patent Office, this feature of the present invention provides surprising advantages over the prior art and allows a superior detection of yarn defects and yarn movements. The transparent ceramic used in the present invention provides no birefringence and allows the yarn to be maintained in contact with the transparent ceramic means even if the yarn moves at a very high speed, e.g. 3000 m/min during a 24-hour period and even if the yarn is very abrasive. The use of transparent ceramic allows a good control of the yarn and a low friction between ceramic and thread during yarn feeding towards the textile machine. The low friction does not negatively effect the yarn tension at very high feeding speeds and avoids the risk of yarn damage. The transparent ceramic allows different kind of sensors to be perfectly used in any kind of textile applications. The contact between the yarn and the ceramic transparent means allows the latter to be maintained clean but this contact does not wear said means due to the use of the ceramic material whose hardness feature is very high. These advantages cannot be obtained by combining the cited prior art.

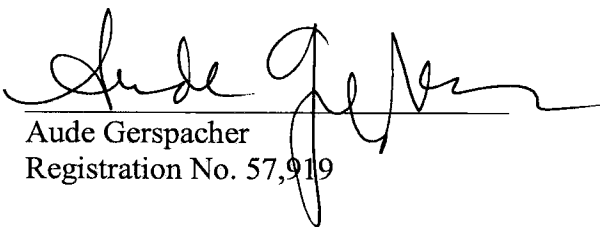
Applicant further maintain that one skilled in the art would not combined the two cited references. Allen's invention is related to the detection of contaminants in highly elongate textile product such as yarn. In particular, it is concerned with detection and removal of vegetable matter from wool yarn. In column 1, lines 33-43, this prior art reference refers to patents relating to the monitoring of changes in yarn diameter. Allen states that the approaches of Ohsawa have no useful application to the detection of contaminants (See lines 37-43) Hence, the skilled person would not have combined Ohsawa and Allen since the Ohsawa relates to a solution which, as described in Allen has no useful application to solve the problem which Allen sets out to solve. Applicant further maintains that if a device was made from combining the two references, the device could not monitor the changes in the yarn diameter. Accordingly, one skilled in the art would not have combined these disclosures, and could not have done so, to arrive at applicant's claimed invention.

For the reasons discussed above, applicants respectfully request that the Examiner reconsider and withdrawn this ground of rejection.

Reconsideration and allowance of all the claims herein are respectfully requested.

Respectfully submitted,

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Aude Gerspacher
Registration No. 57,919

Cozen O'Connor
250 Park Avenue
New York, New York 10177-0030
Telephone: 212.986.1116